

Monitoring Ecological Restorations in a Rapidly Changing Environment

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Ecological Restoration



2 years



What happens in 20 years?



20 years



???

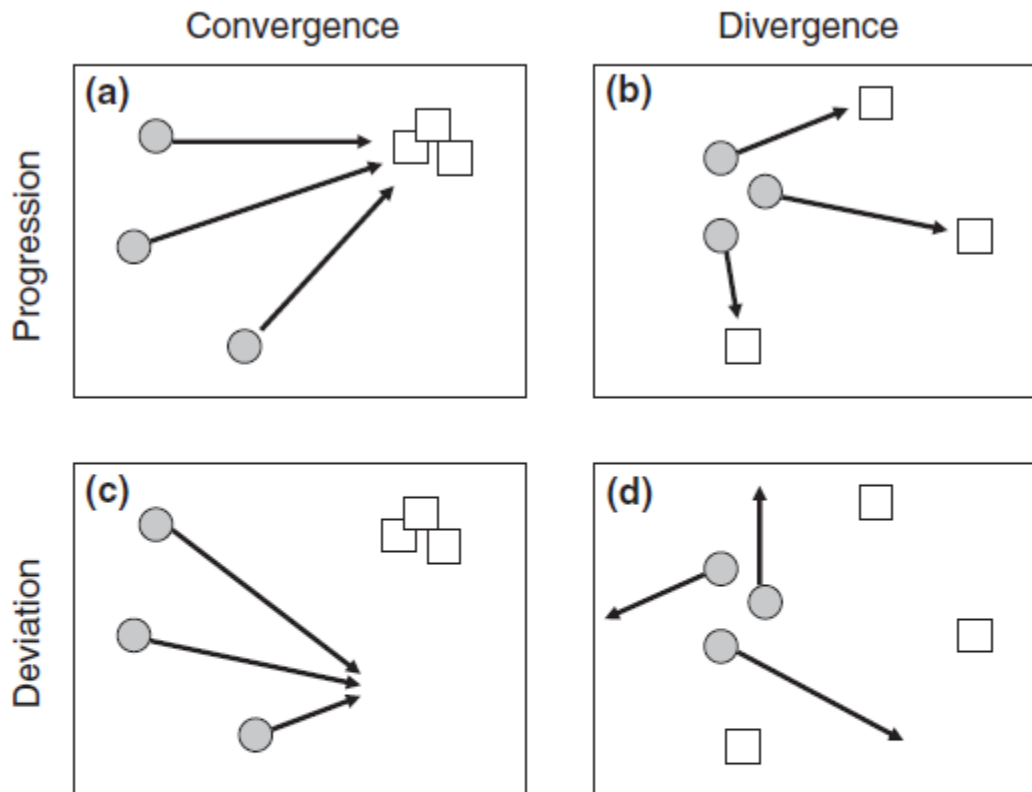


Fig. 1. Given a set of restoration sites (grey circles) and reference targets (squares), four patterns are possible for temporal trajectories (arrows) in species composition: (a) convergence in species composition among restorations and progression towards the target composition, (b) divergence among restorations and progression towards a spectrum of potential targets, (c) convergence among restorations but deviation away from the intended reference targets, (d) divergence among restorations and deviation from intended targets.

What happens when the environment changes?

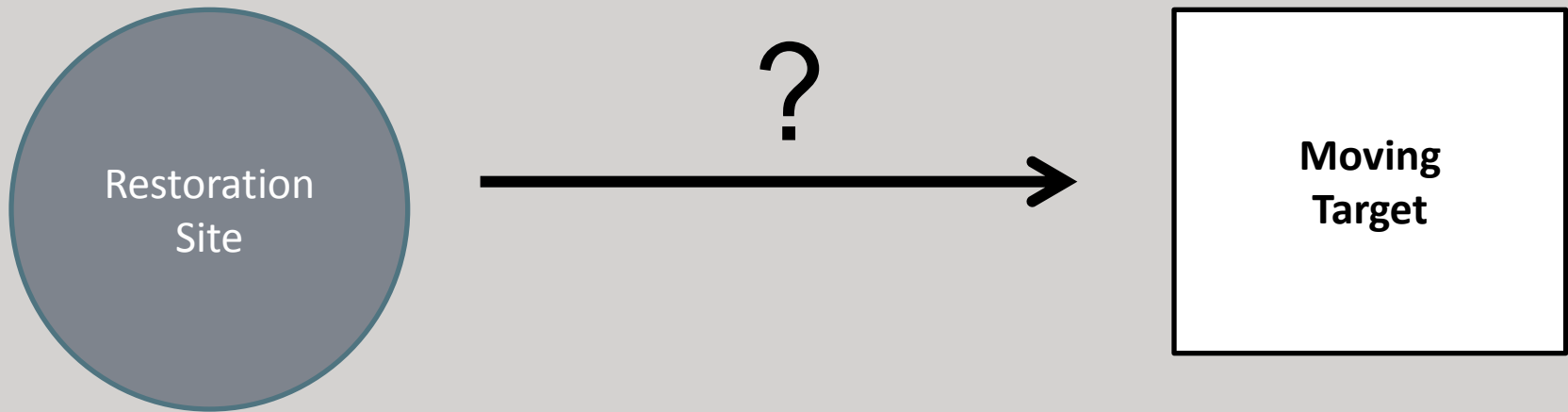


20 years



???

What happens when the environment changes?

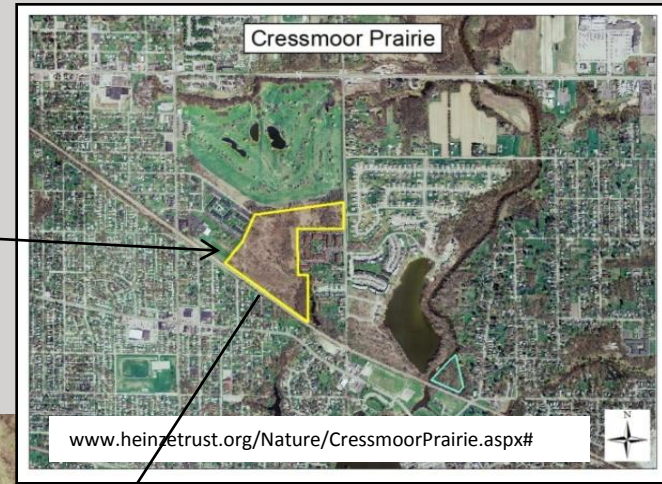
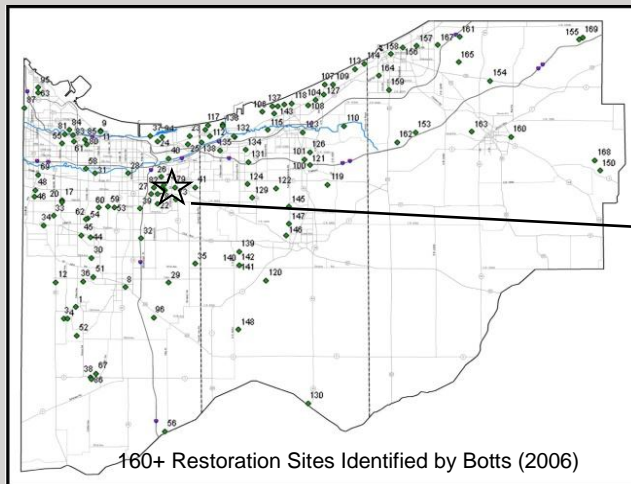




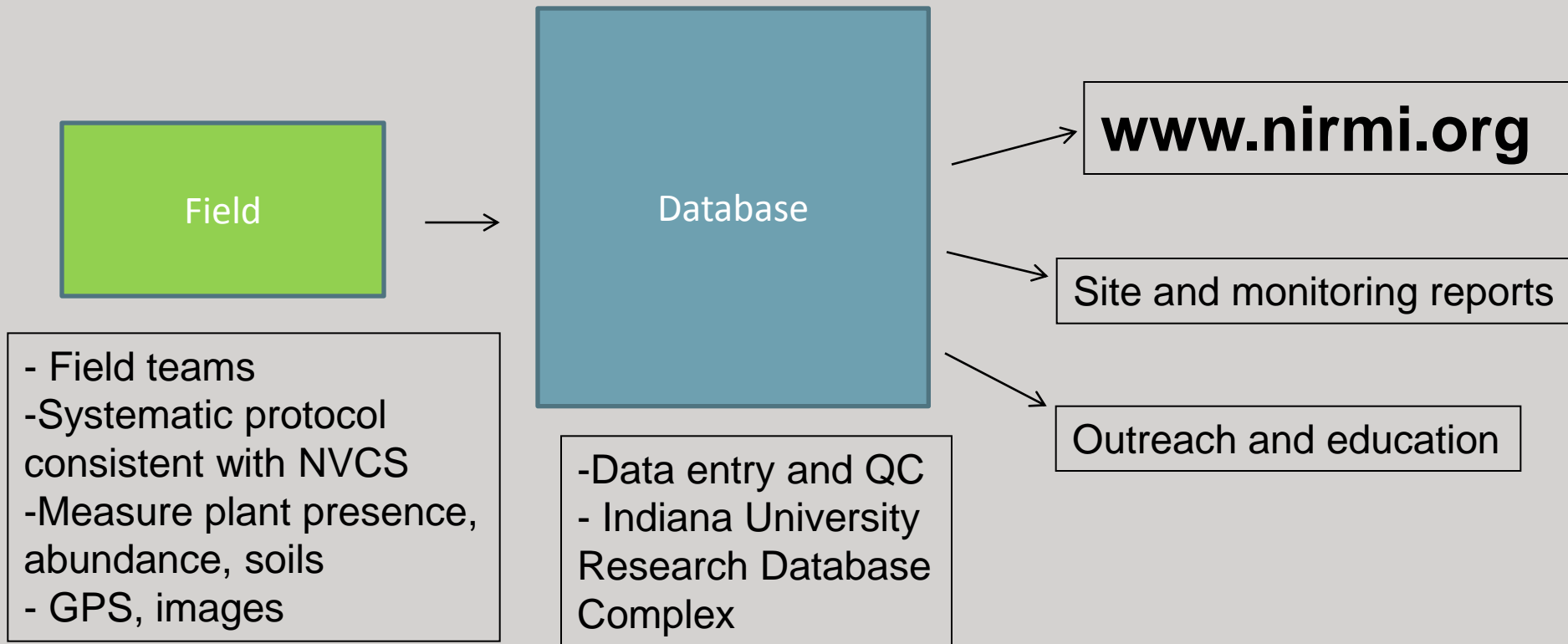
A monitoring and data management project
focused on ecological restorations

www.nirmi.org

What NIRMI does



Field to Database to Info Sharing



So far, NIRMI monitors...

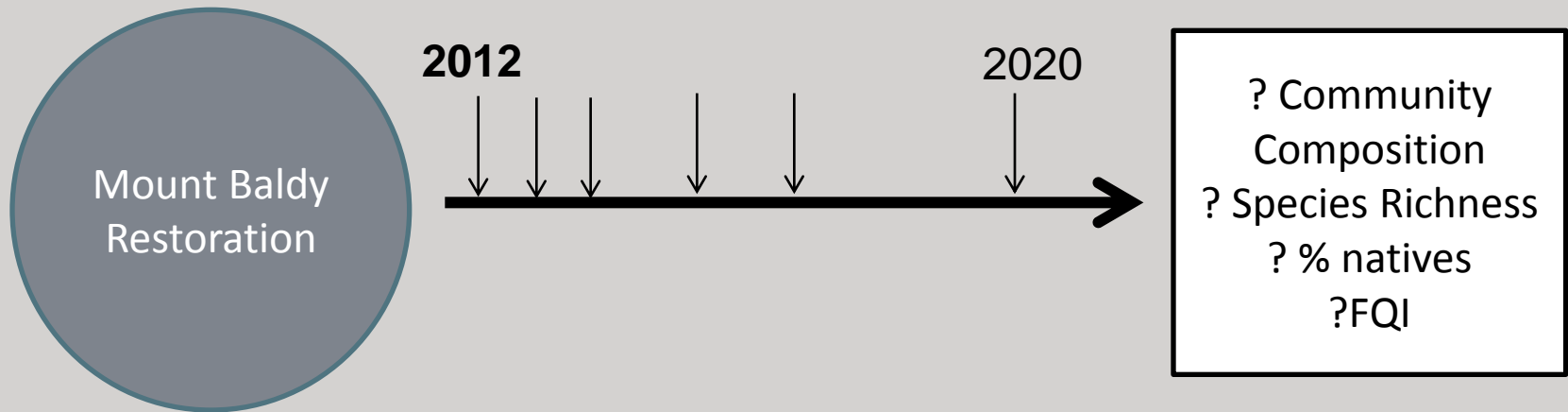
- 40 sites, 131 plots and counting
- Over 10 different habitat types
- Range of restoration types
- 20 different conservation organizations

At INDU National Lakeshore

- Miller Woods
- HQ Oak Woods
- **Mt. Baldy**
- Brown Kintzele Ditch
- Cowles Wetland Complex
- Derby Ditch
- Tansley Marsh



Mount Baldy



How can NIRMI aid restoration in a changing environment?

Trends in species across the region

- <http://discern.uits.iu.edu:8780/species.php?number=4059>

Track changes at multiple spatial scales

- <http://discern.uits.iu.edu:8780/site.php?pageNav=142&mode=data>

Monitor a broad range of habitats

- <http://discern.uits.iu.edu:8780/data.php?mode=habitat>

Take Home Message:

NIRMI provides the data

- **Restoration managers** -- How to restore in a changing environment?
- **Researchers** – What are the changes across multiple restoration sites?
- **Educators** – How can restoration education be coupled with understanding climate changes in courses?
- **Public and Policy** -- How can I value restoration even in a changing environment?